

715 XS VALVE WITH SA03 ELECTRIC ACTUATOR

FEATURES

The stainless steel 715XS+SA03 2-way ball valve is dedicated to the automatic shut-off of uncharged industrial fluids. This full-bore ball valve has an antistatic device and is certified according to the EC standards. The ISO 5211 pad enables the direct mounting of the SA03 electric actuator. It is perfectly adapted for an indoor or outdoor industrial use.

AVAILABLE MODELS

1.4408 stainless steel (A351 CF8M) body.

Diameters 1/2" to 1 1/4".

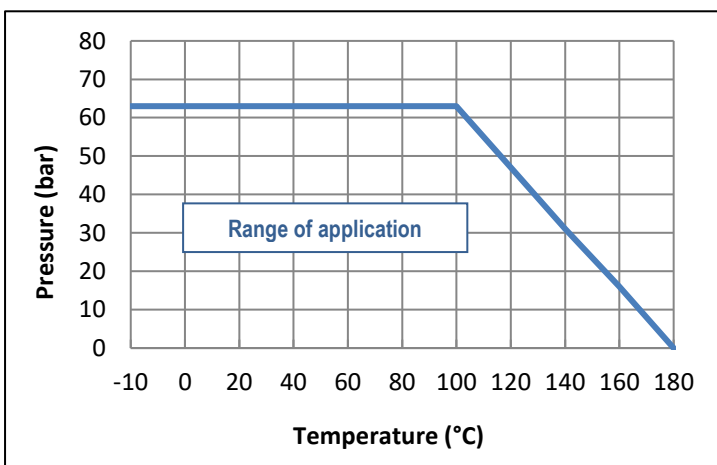
G (BSP) and NPT threaded connections.

Supply voltages : 24 Vdc, 24 Vac and 230 Vac.



LIMITS OF USE

Fluid pressure : PS	63 bar (20°C)
Fluid temperature : WT°	- 10°C / +180°C
Ambiant temperature	- 20°C / + 70°C
Service factor	<u>S2</u> : 15mn - <u>S4</u> : 50%



DIRECTIVES AND MANUFACTURING STANDARDS

OBJET	Standard	ON	OBJET	Standard
Pressure Equipment Directive 2014/68/EC	<u>1/2" to 1"</u> : not subject		Final test	EN 12266
	<u>1 1/4 to 3"</u> : category III	TÜV 0035	Material certificate	EN 10204
Size	EN 12516-1		Motorisation connection	ISO 5211
Steel grade	EN 1503-1			

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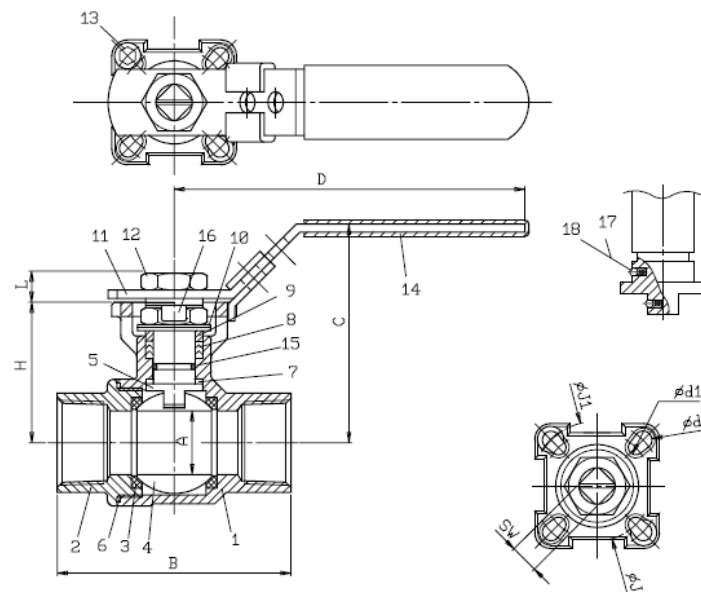
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CONSTRUCTION

No.	Name	Material	No.	Name	Material
1	Body	SS A351 CF8M /1.4408	11	Lever	304 SS
2	End cap	SS A351 CF8M /1.4408	12	Nut	304 SS
4	Seat	PTFE+15% GF	13	End top	304 SS
5	Stem	316 SS	14	Sleeve	PVC
6	Body gasket	PTFE	15	O-ring	FKM
7	Washer	PTFE	16	Sliding block	304 SS
8	Gland packing	PTFE	17	Antistatic device	316 SS
9	Washer	304 SS	18	Spring	316 SS
10	Belleville spring washer	301 SS			



DIMENSIONS (mm)

DN	A	B	C	D	H	L	J	J1	d1	d2	SW
1/2"	15	55	70,9	110	42,3	8	42	50	6	7	9
3/4"	20	76	73,4	110	44,9	8	42	50	6	7	9
1"	24,5	83	84,1	135	54	10	42	50	6	7	11
1"1/4	32	91	89,3	165	59,2	10	50	70	7	9	11
1"1/2	38	103	109,5	165	71,3	10	50	70	7	9	11
2"	50	120	118,9	165	82,9	14,8	50	70	7	9	14
2"1/2	65	155	155	300	107	17.1	70	102	9	11	17
3"	80	182	165	335	117	17.1	70	102	9	11	17

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SA 03 ELECTRIC MOTORISATION

Suggested standard SA actuation under the following conditions:

- Electric actuator with an IP 67 epoxy coated aluminium enclosure and steel gears,
- A minimum 1.3 safety factor compared with the valve nominal torque rating,
- A maximum pressure differential up/downstream of 10 bar ($=\Delta P$),

Direct mounting of the electric actuator.

DN	Actuator	Power	Intensity 230V AC	Intensity 24V AC-DC	Time*	Standard equipment of the actuator
1/2"	SA 03	3 W	0,8 A	0,8 A	8 s	2 adjustable limit switches 2 dry auxiliary switches 2 W anti-condensation heater Actuator thermal cut-out Declutching by lever Manual override by key Backlit position indicator Electrical connection: 1 gland pack. M20x1.5
3/4"	SA 03	3 W	0,8 A	0,8 A	8 s	
1"	SA 03	3 W	0,8 A	0,8 A	8 s	
1"1/4	See 502 + SA 05					
1"1/2						
2"						
2"1/2	See 502 + SA 09					
3"						
	See 502 + NA					

For any other operating conditions, please contact us.

* indicative time for actuator running empty

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ASSEMBLY AND MAINTAINANCE INSTRUCTIONS

1 - Installation

1.1 - Checks

- Check that the material of the valve body is chemically compatible with the fluid.
- Check that the pressure and service conditions are compatible with the (P, T) diagram of the valve. See § "Service limits"
- Check that the fluid is clean and free of particles. The latter could scratch the ball and damage the seats, hence causing the valve to leak. If need be, install an upstream filter.
- Check that the upstream and downstream pipes are correctly aligned and that the supports are suitable for the weight of the valve. Do not rely on the valve to compensate for pipe misalignment. For heat transfer fluids, provide for expansion compensation. All these piping defects may lead to leaks, blockages and even mechanical failure.
- Check that there is no risk of thermal expansion of the fluid, which could damage the seats. In the open position, a hole at the top of the ball balances the pressures between the body cavity and the flow of the fluid. As an option, we recommend a relief hole upstream of the valve for balancing the pressures for fluids such as ammonia, LPG, chlorine, etc.
- On a cold service, check that there is no risk of ice forming and blocking the tap spindle. If necessary, provide a spindle extension with suitable insulation or permanent spindle heating. Please consult us for a special model.
- Check that the valve is not used for flow or pressure control since it is not intended for this use and there is a risk of premature wear of the seats, in particular in the event of high pressure and/or temperature. For this special application, preferably use our "V-port" 746XS version with a V-shaped hole in the ball. Please contact us.
- Check that the valve is not used on a gas which might condense at certain times during the process. In such a case, the pressure within the body cavity could become negative, which could lead to a significant deformation of the seats. Please contact us.
- Static electricity: the valve will be supplied with a ball-stem-body internal electrical continuity tester. If the service conditions require the electrical continuity of the installation, check its earthing.
- If the valve is installed in an explosive zone, you must follow the additional "IMEVMATEX" instructions.

1.2 - Storage before installation

- Follow our general "IMESTOCK" instructions for storage.

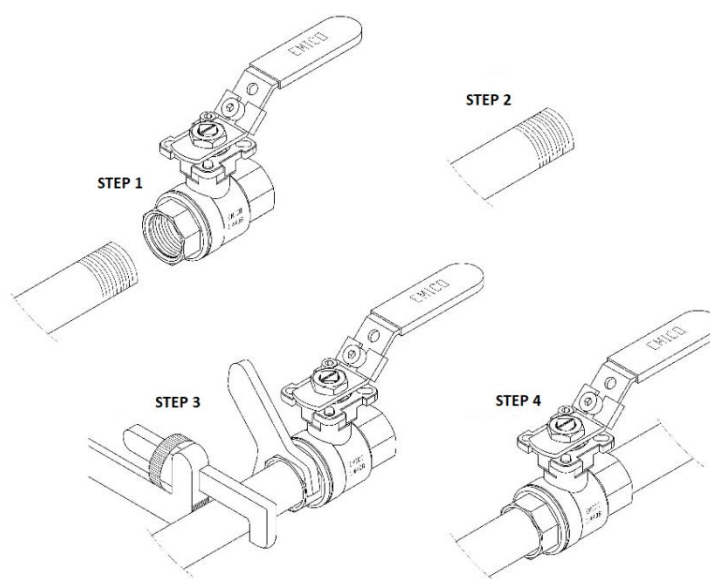
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1.3 - Installation

- Before any installation, isolate the piping upstream and downstream, depressurize the piping and bring the installation to ambient temperature. Carefully clean the piping of any particle (foreign body, dust, rust, etc.) or shavings by water rinsing or air blowing.
- For valves with a size above DN50, plan to use a hoist.
- Remove the protective tips from the valve ends.
- Check the cleanliness of the internal surfaces of the valve and if need be, clean them.
- Direction of mounting: the valves do not have a preferred direction of mounting, unless a relief hole was drilled into the ball.
- Check the perfect alignment and the proper support of the pipe installation upstream and downstream of the valve. Alignment defects cause mechanical deformations which can block the valve or lead to leaks at the body gaskets.
- Check that the standards for the valve internal thread and pipe thread are the same.
- Cover the pipe threads using a sealing material (tow, PTFE tape, sealing glue, etc.) which is suitable for the fluid.
- Screw the tube into the valve end clockwise, as shown in the diagram below.
- Check the sealing of the connection using a suitable test (hydrostatic test or leak detection spray).
- Hydraulic test of the installation:
 - Valves were tested at the factory at 1.5 x WP.
 - If a hydrostatic test is carried out on the installation, do not exceed the authorised pressure.



2 - Service

- If a hot fluid flows across the valve, do not touch the valve surface.
- Always operate the valve slowly and smoothly.
- Opening clockwise, closing anti-clockwise.

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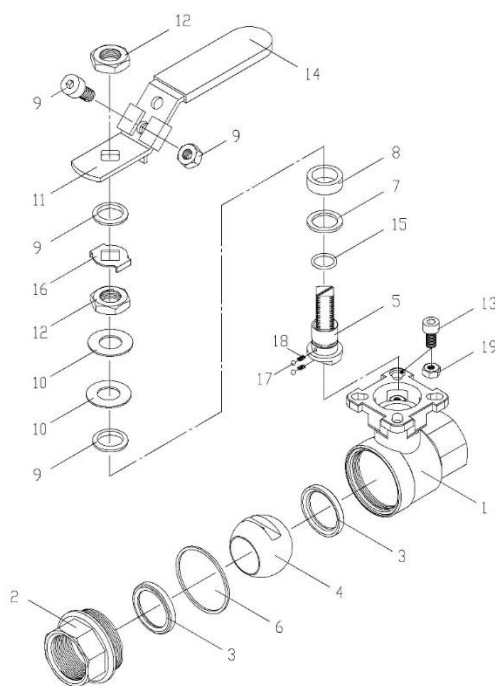
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3 - Servicing

3.1 - Frequency of servicing

- The servicing frequency depends upon the use of the valve, of the type of fluid, of its velocity, of its frequency of operation, of the cycles of rise and fall in pressure and temperature.
- Before any intervention, isolate the upstream and downstream pipe installation using the valves provided for this purpose. Depressurize the pipe installation and bring it to ambient temperature.
- If the lever has to be removed, do that before disassembling the body.
- To remove the central body, unscrew the lateral end (item 2).
- To remove the ball from the body, turn the stem by a quarter turn.



3.2 – Inspecting the state of the valve and possible repair

- Check the state of the ball (Item 4): it has to be clean and unscratched. If the cleaning or polishing is not possible, replace it (see the § on spare parts).
- Check the state of the seats (3.1 and 3.2): they must not be deformed, nor scratched, nor worn, or dirty. Otherwise, replace them with parts from the gasket kit.
- Check the state of the packing gland (7.8 and 9): no leak should be found at the stem and the rings should not be excessively worn. If need be, replace the gaskets.
- Check the state of the body gasket (6.1 and 6.2). Replace it, if need be.
- Reassemble the different parts of the valve, following the tightening torques shown in the table below.
- Check that the stem manoeuvring is smooth. Perform about ten manoeuvres.

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TABLE OF THE TIGHTENING TORQUES OF THE TIE-BOLTS AND OF THE LEVER NUT

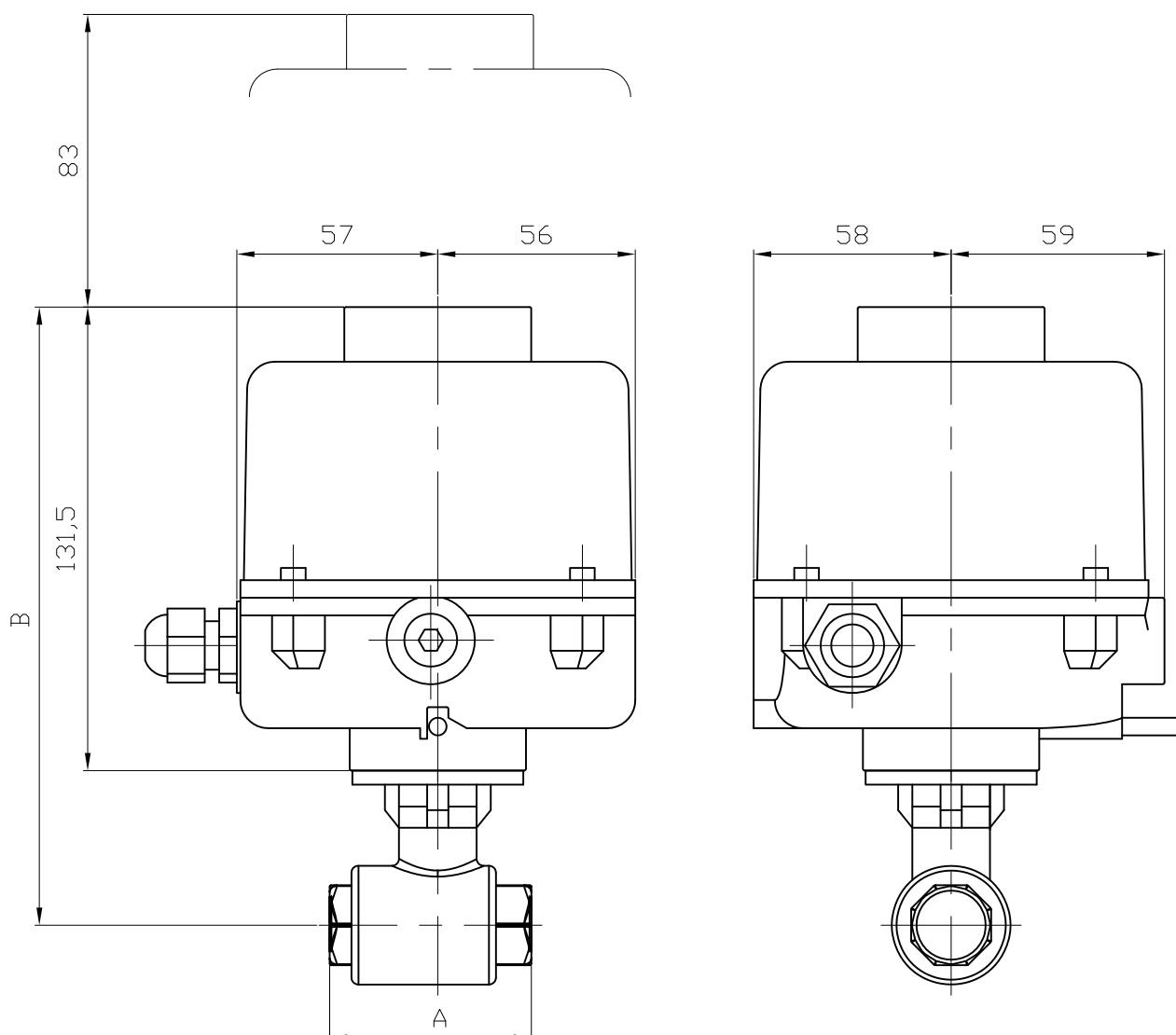
DN	Lever nut (Nm)
1/4" – 6	4
3/8" – 10	4
1/2" - 15	4
3/4" - 20	4
1" - 25	4.5
1"1/4 - 32	4.5
1"1/2 - 40	5.5
2" - 50	5.5
2"1/2 - 65	7
3" - 80	7
4 " - 100	7

SPARE PARTS

DN	Gasket kit	Ball	Lever
Reference mark	6-7-8-15	4	11
1/2" - 15	Please contact us.	980032	982802
3/4" - 20	Please contact us.	980033	982802
1" - 25	Please contact us.	980034	982804
1"1/4 - 32	Please contact us.	980035	982804
1"1/2 - 40	Please contact us.	980036	982806
2" - 50	Please contact us.	980037	982806
2"1/2 - 65	Please contact us.	Please contact us.	982808
3" - 80	Please contact us.	Please contact us.	982808
4 " - 100	Please contact us.	Please contact us.	982808

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DN	1/2"	3/4"	1"
A	57	71	83
B	173.8	176.3	185.5
KG	2.27	2.44	2.87

Informations données à titre indicatif et sous réserve de modifications éventuelles
data subject to alteration

Ech: /	Date :07/02/2012	Dessiné par : E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A TOURNANT SPHERIQUE 715XS/BALL VALVE 715XS + SERVOMOTEUR SA03/ELECTRIC ACTUATOR SA03				Matière :		
				Poids (Kg) :		
				Traitement : SANS		
 45, Rue du Ruisseau 38297 SAINT QUENTIN FALLAVIER				Plan n° Ens 1127		

SA 03 ELECTRIC ACTUATOR

FEATURES

The SA03 electric actuator is intended for motorising under on/off operation the 1/4 turn valves with a torque of at most 30 Nm. With a compact construction and epoxy-coated aluminium housing, it is especially well suited for motorising small diameter ball valves. Backlit dome position indicator. IP67 leak-tightness: it can be used both indoors and outdoors. Compliant with the EN 15714-2 standard.

AVAILABLE MODELS

Supply voltages: 230V AC and 24V AC/DC

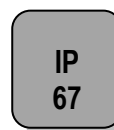
LIMITS OF USE

IP Code	IP 67
Ambient temperature	- 20°C / + 70°C
Service factor	<u>S2</u> : 15 minutes / <u>S4</u> : 50%



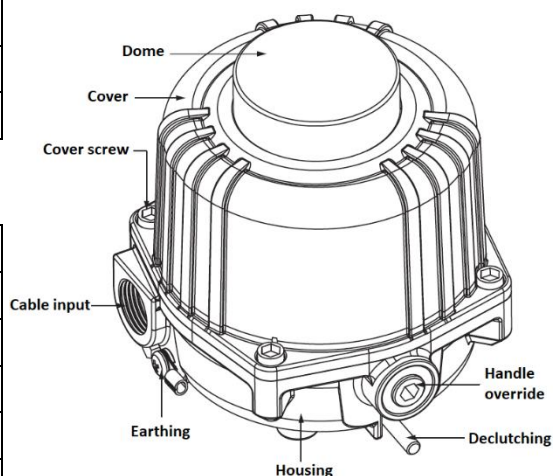
MECHANICAL FEATURES

Gear box	treated steel pinions	
Torque	30 Nm	
Angle of rotation	90° +/- 5°	
Manoeuvring time	24V AC/DC	230V AC
	<u>AC</u> : 9 s / <u>DC</u> : 7 s	12 s
ISO 5211	F03 / F05 star 11	
Declutching	key-controlled	
Override control	using a 6 mm hex key	
Weight	1.5 kg	



ELECTRICAL FEATURES

Power	18 W	
Current	24V AC/DC	230V AC
	0.8 A	0.1 A
Motor protection	thermal	
Limit switches	2 adjustable switches	
Auxiliary switches	2 adjustable dry switches 250V AC 5A	
Anti-condensation	2x1.5W heater	
Electrical connection	2 x M20 x 1.5 (one PE and one plug provided)	



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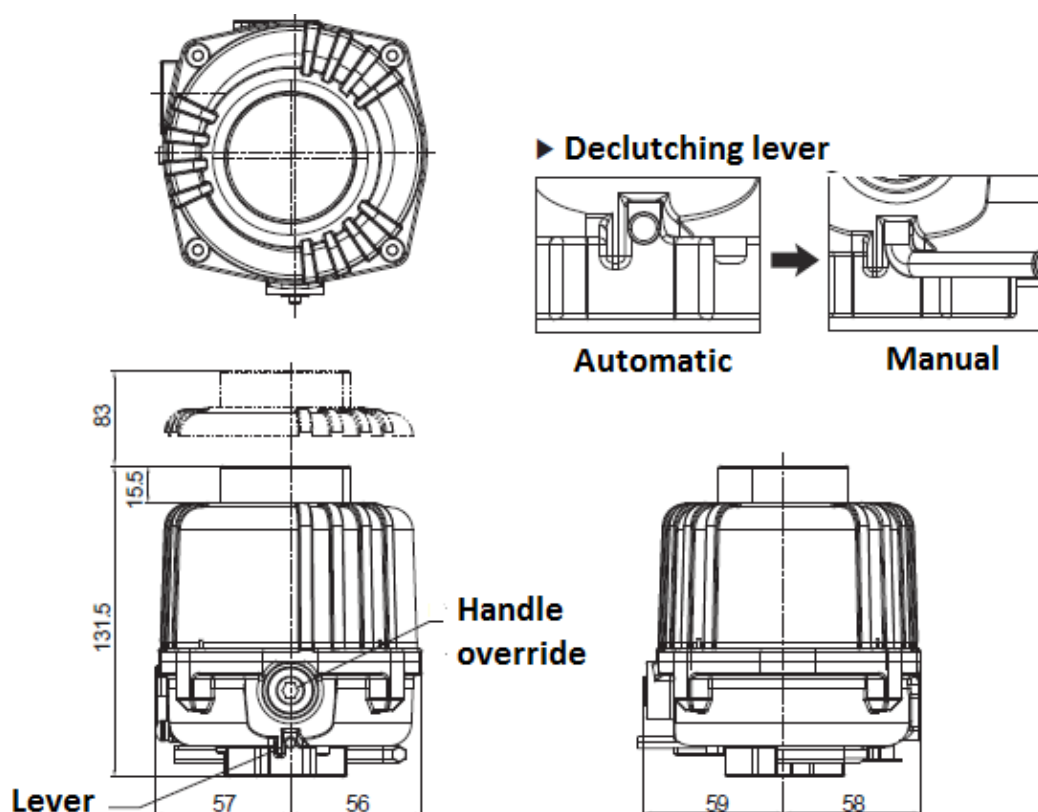


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SA 03 ELECTRIC ACTUATOR

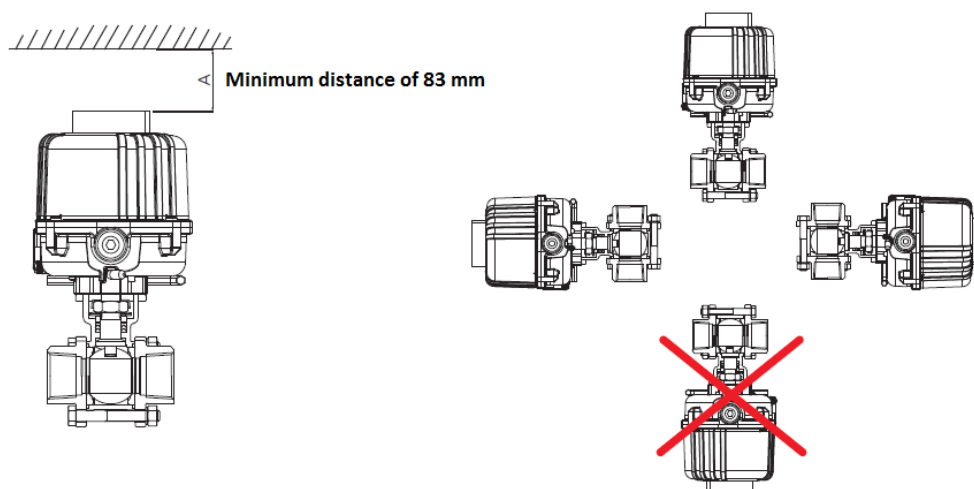
DIMENSIONS (mm)



CONSTRUCTION

No.	Item	Material
1	Housing	Epoxy-coated aluminium alloy
2	Cover	Epoxy-coated aluminium alloy
3	Cover screw	Stainless steel
4	Dome	polycarbonate

ASSEMBLY POSITIONS



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SA 03 ELECTRIC ACTUATOR

GUARANTEE

Before any contact with our services, identify the type of actuator.

SECTORIEL actuators have a 12-month guarantee from the delivery date. The parts admitted as faulty by an assessment at our facility will be replaced at our expense. Complaints generated by incorrect use or a modification of the actuator, cannot be taken into account.

VERIFICATIONS AND ACCEPTANCE

At acceptance, check that:

- the packaging is in good condition,
- the actuator is as ordered,
- the equipment is not damaged.

It is recommended to install the actuator as soon as accepted and not to leave it unused. If the equipment has to be stored, it must be in a dry place protected from weather.

PRECAUTIONS FOR OPERATION

Before installing, make sure that the installation is completely depressurized and brought to ambient temperature.

Do not install this actuator in a zone classified as explosive (ATEX).

The IP Code of the actuator is IP67 for interior or exterior mounting. Do not install this actuator in a marine environment and do not immerse it.

The actuator must not be powered during installation and maintenance of the valve on the pipework, and of the actuator on the valve.

Before proceeding to the electrical connection, check the supply voltage of the actuator.

Do not mount the actuator in series or in parallel with other electrical motors. If need be, use relays.

Do not mount the actuator on valves with higher torque than the nominal torque of the actuator.

INSTALLATION AND OPERATION

Install the actuator on the valve (already done for the units assembled in our workshops)

Perform the electrical wiring as shown on the diagram below

Adjust the switch stops (already done for the units assembled in our workshops).

View the movement of the valve using the indicator light on the cover.

SA03 actuator: to use the manual override, first disconnect the electrical power, then turn the hollow hex-head screw with a hex key.

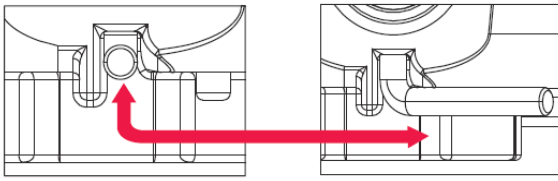
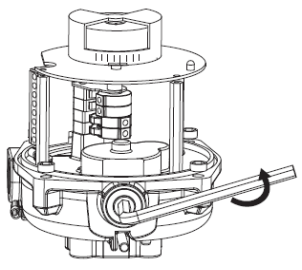
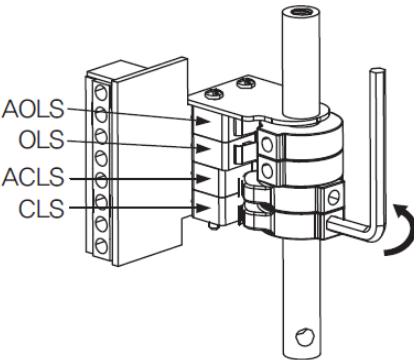
Reposition the manual override after use.

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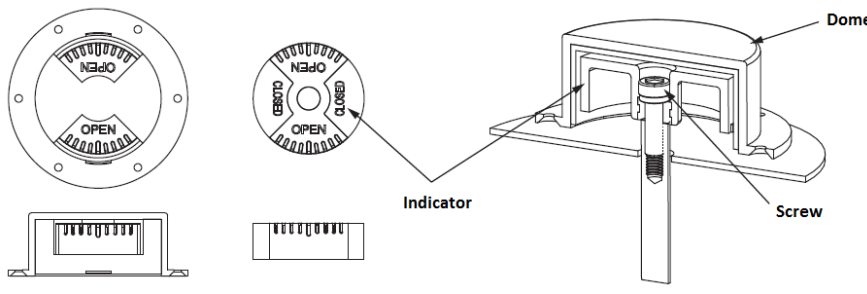
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SA 03 ELECTRIC ACTUATOR

SWITCH SETTING

1. Switch the actuator to manual mode	2. Turn the key to bring the valve, successively, in the open and closed positions, and to set the switches as shown below.							
 Auto Manual								
	The cams are attached to the drive stem							
	Clockwise rotation = valve closing. The micro-switch stops the actuator.							
	Anti-clockwise rotation = valve opening. The micro-switch stops the actuator.							
	<table> <tr> <td>CLS</td><td>Closing switch</td></tr> <tr> <td>OLS</td><td>Opening switch</td></tr> <tr> <td>ACSL</td><td>Auxiliary closing switch</td></tr> <tr> <td>OCSL</td><td>Auxiliary opening switch</td></tr> </table>	CLS	Closing switch	OLS	Opening switch	ACSL	Auxiliary closing switch	OCSL
CLS	Closing switch							
OLS	Opening switch							
ACSL	Auxiliary closing switch							
OCSL	Auxiliary opening switch							

SETTING THE POSITION INDICATOR

 Dome Indicator Screw	The position of the valve is indicated by the indicator. If its alignment is incorrect, remove the cover and proceed to its setting by unscrewing the attachment screw.
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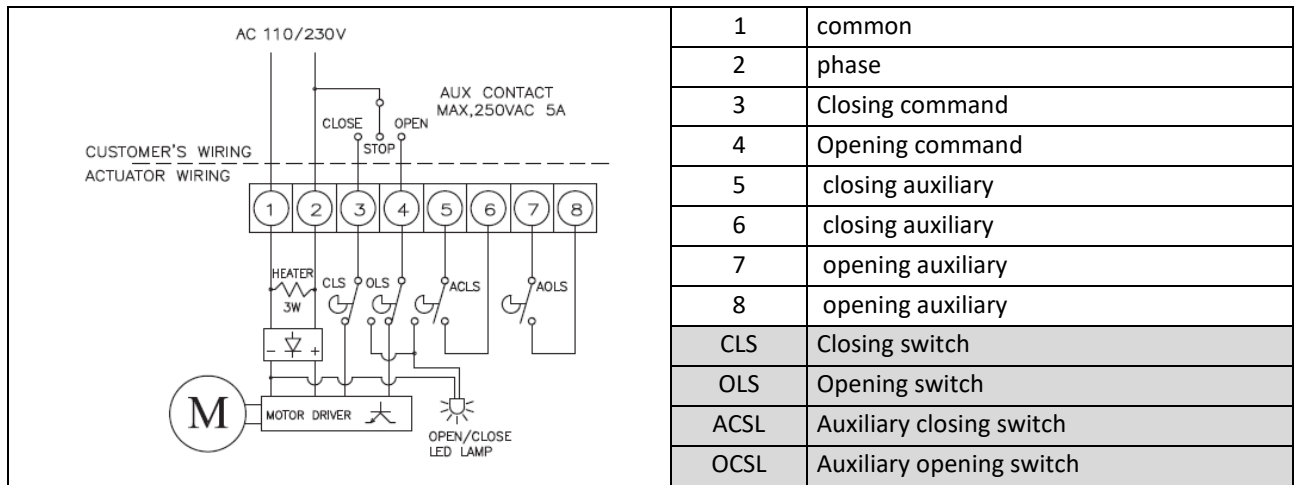
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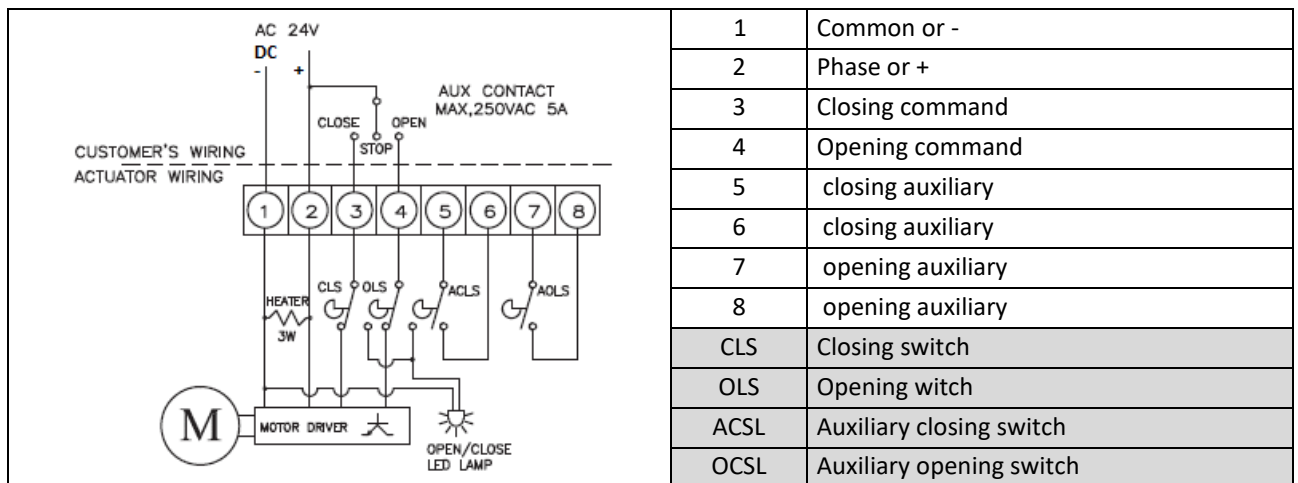
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ELECTRICAL WIRING

Wiring for 110/230V AC voltages



Wiring for 24V AC/DC voltages



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